

## **REMARKS**

### **Status of Application**

Claims 1-20 are pending in this application. By this Amendment, claims 1, 5, 7, and 10 are amended. The Amendment finds its basis in the specification, for example on page 10, first full paragraph. Entry of the Amendment after final rejection is respectfully requested as applicant respectfully submits that all claims are in condition for allowance.

### **Rejection under 35 U.S.C. §102**

Claims 1-3, 5, 7-8, 10, 12-14, 16-18 and 20 stand rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 6,141,720 to Jeffords *et al.* (hereinafter "Jeffords"). This rejection is respectfully traversed.

Jeffords discloses a technique for coordinating sharing of an object in a distributed system. Jeffords fails to disclose several features of independent claims 1, 5, 7, 10, 12, and 16 of the present application.

With regard to claim 1, Jeffords fails to disclose "calling by a client object a request lock method of a server object". In the Jeffords patent, an acquire lock sub-protocol is implemented in the requesting process. Thus, when the requesting process desires a lock, it calls its own (client) acquire lock sub-protocol and not a request lock method of a server object. See, for example, col. 4, lines 27-35.

Furthermore, with regard to claim 1, Jeffords fails to disclose the claimed determination technique performed by the server object. Jeffords fails to distinguish between exclusive and non-exclusive access. In the disclosure of Jeffords, only one process can access the data at a time. Only a positive or negative response can be provided. See column 5, lines 40-45 of Jeffords.

Additionally, Jeffords fails to disclose the claimed granting process of claim 1. Claim 1 requires that the server object call a lock granted method of the client object to grant access. The Jeffords patent teaches that the lock provider sub-protocol is

implemented in the lock owner process. See, for example, col. 5, lines 9-14. Thus, when the lock owner decides to grant access to the requesting process, it calls its own lock provider sub-protocol. This differs from the invention of claim 1, in which, when the server object decides to grant the access to the client object, the server object calls a lock granted method "of the client object."

Finally, with regard to claim 1, Jeffords fails to disclose the claimed technique for releasing access. Claim 1 requires that access is released when the client returns the lock granted method. In contrast, the Jeffords patent teaches a requesting process releasing access by sending a release lock message to the lock owner. See, for example, col. 6, lines 46-47. Jeffords does not teach that a client object can release access by returning the lock granted method.

Claim 5 is a machine-readable medium claim having the same features discussed above with regard to claim 1. Accordingly, claim 5 is allowable over the art of record for the reasons set forth above with respect to claim 1.

Claim 7 is a machine-readable medium claim that is patentable over Jeffords for many of the reasons set forth above. Claim 7 requires calling a request lock method of the server object requesting the access. As set forth above, Jeffords discloses that the client calls its own sub-protocol to request access rather than that of the server.

Furthermore, claim 7 requires receiving a call from the server object to a lock granted method of the client object. The Jeffords patent teaches that the lock provider sub-protocol is implemented in the lock owner process. See, for example, col. 5, lines 9-14. Thus, when the lock owner decides to grant access to the requesting process, it calls its own lock provider sub-protocol rather than that of client as required by claim 7.

Additionally, Jeffords fails to disclose receiving the granted access if access is available, wherein access is available if any current access is non-exclusive as required by claim 7. Jeffords does not disclose non-exclusive access.

Finally, Jeffords also fails to disclose returning the lock granted method to the server object in order to release access. In contrast, the Jeffords patent teaches a

requesting process releasing access by sending a release lock message to the lock owner. See, for example, col. 6, lines 46-47.

With regard to claim 10, Jeffords fails to disclose a client object having a lock granted method and a server object having a request lock method that determines access should be granted if any current client access is non-exclusive and if no current client access exists. Jeffords does not distinguish between types of client access. In Jeffords, only one client can have access at a given time.

With regard to claim 12, Jeffords fails to disclose the features as set forth above with respect to original claim 10. Furthermore, Jeffords fails to disclose an object queue to manage the access to the data, wherein the object queue has a proxy lock granted method and a proxy lock request method.

The arguments set forth in the Office Action do not appear explain where Jeffords discloses an object queue managing access to data, having a proxy lock granted method and a proxy lock request method. The reference to column 5 in which the lock owner process can act like a server and the lock holder can act as a client is understood. Jeffords is a peer-to-peer system and any component in the system can act as either a client or server. Additionally, applicant understands the definition of a "proxy" set forth in the Office Action.

However, in order to sustain a rejection under 35 U.S.C. §102, the cited reference must disclose each and every feature of the claimed invention. Regardless of the definition of a "proxy", Jeffords simply does not disclose the use of a queue for managing access to data having a proxy lock granted method and a proxy lock request method. Jeffords further fails to disclose that the client calls the proxy lock request method of the object queue and the further claimed interaction between the object queue and the server and client.

The queue of Jeffords does not manage data and does not include any methods for managing data. As set forth in column 6, lines 34-53, five different protocol messages

are included in the system of Jeffords. None of these protocol messages comes from the queue. In Jeffords, the lock owner process controls distribution of information or items of the queue. See Column 6, lines 55-57. The lock owner further must determine if processes are waiting in the queue and retrieve the waiting processes. See Column 7, lines 8-15. The queue disclosed in Jeffords is passive and does not include the claimed processes for managing data.

The Jeffords patent teaches a queue used to store pending requests for access. After a requesting process releases access, the lock provider grants access to a requester in the queue. Thus, unlike the invention of claim 12, the lock provider grants access to each lock requester in turn, rather than granting access to queue, as set forth in claim 12. In claim 12, the client object interacts with the queue by calling the proxy request lock method of the object queue and the object queue interacts with the client calling the client lock granted method of the client. In Jeffords, the queue does not interact with the client.

Nowhere does Jeffords teach or suggest an object queue "having a proxy lock granted and proxy request lock method." Furthermore, Jeffords fails to teach a client "calling the proxy request lock method of the object queue," "the object queue then calling the server request lock method of the server object," "the server object then calling the proxy lock granted method of the object queue," or "the object queue then calling the client lock granted method of the client object." In addition, as described above with reference to claim 1, Jeffords fails to teach a "client object having a lock granted method" or "a server object governing access to data having a server request lock method." Accordingly, Jeffords fails to show each feature of claim 12.

With regard to independent claim 16, as discussed above in reference to claim 12, the Jeffords patent teaches a queue of requesting processes used to store pending requests for access. After a requesting process releases access, the lock provider grants access to a requesting process in the queue. Thus, unlike the invention of claim 16, the lock provider grants access to each lock requester in turn instead of granting access to the queue as set forth in claim 16.

Nowhere does Jeffords teach or suggest “calling by a client object of a proxy request lock method of an object queue” or “calling by the object queue of a server request lock method of the server object requesting the proxy access.” Furthermore, Jeffords fails to disclose “calling by the server object of a proxy lock granted method of the object queue.” or “calling by the object queue of a client lock granted method of the client object.” Accordingly, the features of claim 16 are not taught by Jeffords, and claim 16 is patentable over Jeffords.

Additionally, with regard to any potential rejection of claims 12 and 16 under 35 U.S.C. §103, applicant respectfully submits that it would not have been obvious to modify Jeffords to arrive at the claimed invention including an object queue having a proxy lock granted method and a proxy lock request method. In embodiments of the present invention, the proxy lock granted and proxy request lock methods function such that the “server object does not have to deal with a number of client objects desiring access to the data, but rather only has to deal with object queue” (see p 12, lines 9-10) and such that “the server makes only a single lock granted call, no matter how many times the queue (or any other client) asks for access” (see p 14, lines 8-9). In contrast, an aim of Jeffords to control all access to the shared object “through the lock owner processes thus assuring coordination and synchronization.” Accordingly, Jeffords teaches away from having a queue actively implementing accessing processes.

Claims 2-3 and 8 depend on claims 1 and 7, respectively. Claims 13-14 depend on claim 12, and claims 17-18 and 20 depend on claim 16. These claims define further features of the invention. Accordingly, applicant respectfully submits that these claims are patentable over the art of record for at least the reasons cited above in reference to the independent claims.

Accordingly, since Jeffords fails to disclose each and every feature of the claims set forth above, withdrawal of the rejection under 35 U.S.C. §102 is respectfully requested.

**Rejections under 35 U.S.C. §103**

Claims 4, 6, 9, 11, 15, and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent No. 6,141,720 to Jeffords *et al.* in view of US Patent No. 6,026,401 to Brealey *et al.* This rejection is respectfully traversed.


Claims 4, 6, 9, 11, 15, and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent No. 6,141,720 to Jeffords *et al.* in view of US Patent No. 6,026,401 to Brealey *et al.* This rejection is respectfully traversed. Claim 4 depends from claim 1, claim 6 depends from claim 5, and claim 11 depends from claim 10. Claim 15 depends from claim 12, and claim 19 depends from claim 16. Accordingly, applicant respectfully submits that these claims are patentable over the art of record for at least the reasons cited above in reference to the independent claims. Withdrawal of the rejection is therefore respectfully requested.

**CONCLUSION**

Claims 1-20 are pending in this application. Claims 1, 5, 7, and 10 have been amended. In view of the amendments and remarks, applicant respectfully requests that this application be allowed and passed to issue. Should any issues remain prior to issuance of this application, the Examiner is urged to contact the undersigned prior to resolve the same. The Commissioner is hereby authorized to charge any additional amount required, or credit any overpayment, to Deposit Account No. 19-2112 referencing Attorney Docket No. MFCP.87511.

Respectfully submitted,

Date: December 18, 2003

  
Kerry H. Owens  
Reg. No. 37,412

SHOOK, HARDY & BACON L.L.P.  
One Kansas City Place  
1200 Main Street  
Kansas City, Missouri 64105-2118  
Phone: (816) 474-6550